

HIGH STABILITY MINIATURE OCXO MV85

Features:

- Small package – 1"x1"x0.5" (25x25x12.7 mm)
- High stability vs. temperature – up to $\pm 5 \times 10^{-9}$
- Low aging – up to $\pm 3 \times 10^{-8}$ /year
- Low phase noise
- Power supply 3.3 V, 5V or 12V
- Frequency range 10.0 – 30.0 MHz
- Available as RoHS

Output type
SIN
HCMOS

Power supply
3.3 V
5 V
12 V

Phase noise, dBc/Hz, for 10-13 MHz, SIN	-	LN	ULN (10MHz)
1 Hz	<-85	<-95	<-95
10 Hz	<-115	<-120	<-125
100 Hz	<-140	<-140	<-145
1000 Hz*	<-150	<-150	<-150
10000 Hz*	<-155	<-155	<-155

* - for 3.3 V: consult factory

ORDERING GUIDE: MV85-B 20 G-5V-SIN-10.0 MHz-LN

Availability of certain stability vs. operating temperature range		$\pm 1 \times 10^{-7}$	$\pm 5 \times 10^{-8}$	$\pm 3 \times 10^{-8}$	$\pm 2 \times 10^{-8}$	$\pm 1 \times 10^{-8}$	$\pm 5 \times 10^{-9}$
		100	50	30	20	10	5
A	0...+55°C	A	A	A	A	A	A
B	-10...+60°C	A	A	A	A	A	A
C	-20...+70°C	A	A	A	A	A	C
D	-40...+70°C	A	A	A	A	A	NA
EX	-40...+85°C	A	A	A	A	C	NA

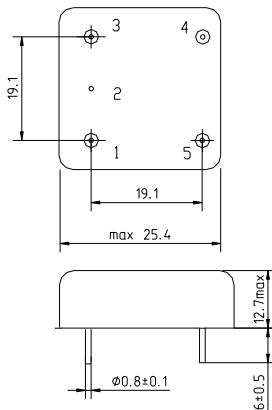
A – available, NA – not available, C – consult factory

Availability of certain aging values for certain frequencies	Standard frequencies						
	10.0 MHz	12.8 MHz	13.0 MHz	16.384 MHz	20.0 MHz	25.0 MHz	30.0 MHz
H $\pm 2 \times 10^{-7}$ /year	A	A	A	A	A	A	A
G $\pm 1 \times 10^{-7}$ /year	A	A	A	A	C	C	C
F $\pm 5 \times 10^{-8}$ /year	A	A	A	C	NA	NA	NA
E $\pm 3 \times 10^{-8}$ /year	A	C	C	NA	NA	NA	NA

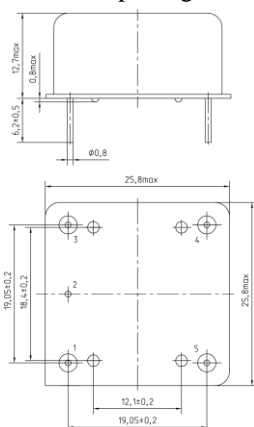
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Package drawing:

Soldered package*



Welded package**



* will be delivered both in welded and soldered package at the supplier's discretion until the end of 2022.
** will be delivered in welded package only

Frequency stability vs. load changes	< $\pm 5 \times 10^{-9}$		
Frequency stability vs. power supply changes	< $\pm 5 \times 10^{-9}$		
Warmup time @ 25 °C: accuracy of $\pm 1 \times 10^{-7}$	<2 min		
Power supply (Us)	3.3V±5%	5V±5%	12V±5%
Steady state current consumption @ 25°C	<450 mA	<200 mA	<80 mA
Peak current consumption during warm-up	<1 A	<600 mA	<300 mA
Frequency pulling range	> $\pm 5 \times 10^{-7}$		
with external voltage range (Uin)	0...+3.0V	0...+4.5V	0...+5 V
with external potentiometer	20 kOhm		
Reference voltage output (Uref)	+3 V	+4.5 V	+5 V
Slope	Positive		

Frequencies, MHz	>10-13	>13-16	>16-20	>20-30	>13-16	>16-20	>20-30
Output	HCMOS				SIN		
Level	>4.0 V/ 45...55%				>225 mV (0dBm)		
Load	10 kOhm/15 pF				50 Ohm±10%		
Harmonics	-				<-30 dBc		
Phase noise, dBc/Hz @ 1 Hz	<-90	<-80	<-75	<-70	<-90	<-75	<-70
10 Hz	<-120	<-105	<-100	<-95	<-120	<-105	<-100
100 Hz	<-140	<-130	<-130	<-130	<-140	<-135	<-135
1000 Hz *	<-145	<-145	<-145	<-145	<-150	<-150	<-150
10000 Hz *	<-150	<-150	<-150	<-150	<-155	<-155	<-155
Short term stability (Allan deviation) per 1 s	< 5×10^{-12}	< 1×10^{-11}	< 2×10^{-11}	< 3×10^{-11}	< 1×10^{-11}	< 2×10^{-11}	< 3×10^{-11}

* - for 3.3 V: consult factory

Vibrations	10-500 Hz, 10g
Shock	100 g/ 3±1 ms
Humidity @ 25 °C	98%
Storage temperature range	-55...+80°C

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	W	X
-60	-55	-50	-45	-40	-30	-20	-10	0	+10	+30	+40	+45	+50	+55	+60	+65	+70	+75	+80	+85



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Due to continuous development and improvement Morion reserves the right to modify design or specifications of its products without prior notice

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